

A COMPARISON OF CERTAIN SOCIO-ECONOMIC FACTORS AND THE ACADEMIC ACHIEVE-
MENT OF TWO HUNDRED EVENING SCHOOL STUDENTS OF THE
BOOKER T. WASHINGTON HIGH SCHOOL
ATLANTA, GEORGIA

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CHAPTER I

INTRODUCTION

Statement of Problem.—This study is a comparison of certain socio-economic factors and the academic achievement of two hundred evening students of the Booker T. Washington High School, Atlanta, Georgia.

Purpose of Study.—The purpose of this study is to determine the relationship of certain socio-economic factors to the academic achievement of two hundred evening school students of the Booker T. Washington High School, Atlanta, Georgia.

The American ideal of an equal opportunity to secure an education regardless of age, race, color or creed, does not mean that every individual must or should have the same kind of education; it does mean, however, that every individual should have the same opportunity for an education. Studies have revealed that there are certain factors which affect the opportunity of an individual. Some of these factors are belonging to a poor family, living in regions where wealth and income are low, being a member of a minority group, and living in rural areas. However, equality must not be thought of as being synonymous with identity.¹

Considering the findings on some of the factors which limit the opportunity for an adequate and effective education for an individual, these questions arise: Was the evening school student a victim of these factors, and as a result, did he discontinue his formal education at an early age? Is he being given enough consideration? Do teachers know what to expect of

¹

John K. Norton, editor, Education Policies Commission. Education and Economic Well Being in American Democracy (Washington D. C. the Commission 1940), pp. 12-18.

him in terms of his academic achievement? Do they know whether these factors have the same effect on him as they have on the day school student? Do teachers know whether the student who works long hours during the day achieves as much academically as the student who works short hours? Do they know whether the older student achieves as much as the younger students? Is there any marked difference between the evening school student and the day school student?

Charles Mishkin¹ says, "If in the day school a careful study is necessary in order to cut the educational cloth to fit the individual pattern, is not the need equally as great to discover purposes, aptitudes, abilities, shortcomings, and appreciation of the adult student?" Believing that no discrimination should be made between evening and day school students, the present study was undertaken to answer the following questions:

1. What is the relationship between age and academic achievement?
2. What is the relationship between socio-economic status and academic achievement?
3. What is the relationship between number of hours worked per day and academic achievement?

Definition of Terms.—For clarification of the problem, it is necessary that all terms be defined. Stuart Chapin² defines socio-economic status as the position that an individual or a family occupies with special reference to the prevailing average standards of cultural possessions, effective income, material possessions, and participating in group activities of the community. He defines cultural possessions in terms of books, daily newspapers, periodicals,

¹
Charles Mishkin, "Challenge to Adult Education," Journal of Adult Education X (October, 1938), p. 37.

²
Stuart Chapin, "A Quantitative Scale for Rating the Home and Social Environment of Middle Class Families" Journal of Educational Psychology XIX (January, 1924), pp. 99-100.

telephone, radio, musical instruments, phonographs and phonograph records. For participating in group activities, he considers membership, contribution, attendance, committee membership, and official positions in clubs. Household equipments such as furnishings, standard furniture, built-in features and basic equipment were considered material possessions.

The following factors were used in this study:

I. Social Status

- A. Age
- B. Sex
- C. Home conveniences
 - a. Bath
 - b. Number of persons per room
 - c. Electric lights
 - d. Telephone
 - e. Radio
 - f. Daily newspaper

II. Economic Status

- A. Occupation
 - a. Skilled
 - b. Unskilled
- B. Number of hours worked per day
- C. Home ownership
- D. Automobile ownership

The term academic achievement as used in this study means the grades which were earned by students in the courses in which they were enrolled. The grades used were for the first semester of the 1943-1944 term.

Limits of Study.—This study will be limited to two hundred evening school students—72 males and 128 females, enrolled in the eighth, ninth, tenth, eleventh, and twelfth grades of the Booker T. Washington High School, Atlanta, Georgia. These students were studied for the first semester of the 1943-1944 school term only.

Situation.—The Booker T. Washington Evening School is an "A" rated school with an enrollment of approximately eight hundred students and a faculty

composed of thirty-five members. The majority of the teachers hold the master's degree.

In this school the school day begins at 7:00 P. M. and ends at 10:30 P. M. The course of study ranges from the first through the twelfth grades. Students are given an opportunity to take courses in Home Economics, Home Management, Home Nursing, Bookkeeping, Typing, Stenography, Aviation, First Aid, and Auto Mechanics. Credits or units for high school graduation begin with the ninth grade. The requirements for graduation are fifteen units. The required units are English 3, Mathematics 3, History and Civics 1, Science 2, and Electives 6.

The students enrolled in this school range in age from fifteen to sixty-five years. Records show that approximately sixty-five per cent of the older students were born in the rural areas of Georgia, and the majority of the younger students were born in the city of Atlanta. A large number of these students have an ambition to finish their high school training and attend college.

Method of Procedure.—The following steps were taken in making this study:

1. Data for the socio-economic status and academic achievement were collected from the permanent record cards of the students, which were on file in the school office.
2. In order to reduce these factors to comparable data, the Sims Score Card was used as a basis, but with certain modifications. A card was set up for each student with consideration being given to all factors used in this study.
3. The socio-economic factors of home ownership, auto ownership, electric lights, bath, telephone, radio, daily newspaper, skilled labor, unskilled labor, and number of rooms per person were grouped and considered as the socio-economic status of the student.
4. Each factor which constituted the socio-economic status of the student was given a weight of value according to the scale set-up, and the sum of these values was obtained and designated as the socio-economic score. The following numerical values were assigned each factor:

| | |
|--|---|
| Home ownership | 4 |
| Auto ownership | 3 |
| Electric lights | 3 |
| Bath | 3 |
| Telephone | 3 |
| Radio | 3 |
| Daily paper | 3 |
| Skilled labor | 2 |
| Unskilled labor | 0 |
| Number of persons per room or room ratio | |

| Ratio * | Credit |
|--------------|--------|
| 0.0 to 0.50 | 0 |
| 0.51 to 1.00 | 3 |
| 1.01 to 1.50 | 4 |
| 1.50 to 2.00 | 5 |
| 2.01 and up | 6 |

5. Academic achievement was in the form of letter grades A, B, C, D, and F. To obtain the academic achievement score, the letter grades which were made by the students in the four subjects in which they were enrolled were changed to numerical values by using the following system: A was given a value of 4, B a value of 3, C a value of 2, D a value of 1, and F a value of 0.
6. The data were set up in tabular form, and the mean and standard deviation were found for the factors of age, socio-economic status, number of hours worked per day, and academic achievement for each grade and the entire group by sex.
7. In order to determine the relationship between the various factors, the coefficients of correlation were obtained between age and academic achievement, socio-economic status and academic achievement, and number of hours worked per day and academic achievement.

Related Studies.—Investigations of the relationship between socio-economic status and academic achievement on the elementary and high school level are fairly numerous. Many have been made on the college level, but there seem to be no studies which dealt with the problem among evening school students.

*

The ratio was found by dividing the number of rooms occupied by the number of occupants, carrying the quotient to one decimal place.

Engle¹ studied the relationship between the home influence and the school records of 342 senior high school students in the Isaac C. Elston Senior High School, Michigan City, Indiana. He divided the students into three groups, namely: (1) the privileged group who came from homes of social or economic prominence in the community; (2) the under-privileged group who came from families who were receiving public assistance; and, (3) the random group who were selected at random by taking every eighth name on the depleted list of girls, and every fourth name on the depleted list of boys.

It was found that in school marks and intelligence quotients, children from under-privileged groups had less favorable school marks than children in the random group, and in turn, children in random group had less favorable marks than children from the privileged group. Children from both the under-privileged homes and the privileged homes presented more problems than children selected at random. Children from the under-privileged homes presented more disciplinary problems than children from the privileged homes.

Collins and Douglas² made an investigation of the socio-economic status of the homes of 146 pupils of superior abilities on the basis of intelligence quotients in the Northeast Junior High School, Kansas City, Kansas. Twenty-seven of these pupils were failing in at least one major subject or were receiving grades that averaged no higher than the lowest passing marks; another twenty were receiving school marks averaging "2" which was superior or better; and ninety pupils were receiving marks averaging "3" or average. These three groups were designated as the failure group, the success group, and the

1

T. L. Engle, "Home Environment and School Records", School Review, XXXXII (1934), pp. 590-598.

2

J. H. Collins and H. R. Douglas, "Socio-Economic Status of the Home As a Factor in Success in the Junior High School", Elementary School Journal, XXXVIII (October, 1937), pp. 107-13.

average group respectively.

The study revealed that the homes which were represented by the failure group were of a lower economic standing than those which were represented by pupils of either the success group or the average group. It was also discovered that pupils from the success group seem to have been from homes which stood out above those from which the pupils in the failure group came. The homes of the average group showed distinct and significant advantages over those of the failure group.

Reeder and Newman¹ in an investigation on the relation of employment to the scholarships of 123 working and 123 non-working freshmen students in the College of Commerce of Ohio State University reported that:

1. There was a little relationship between the hours that students work and their scholarship.
2. The chances seem to be fifty-fifty for a satisfactory or an unsatisfactory school record no matter how much or how little he works.

Coleman² carried out a study among 4,784 junior high school pupils in the Citadel School, Charleston, South Carolina. These cases were divided into four groups as follows: Group I, the high socio-economic status group; Group II, the normative group; Group III, representing low socio-economic status; and a relief group, representing those families who were receiving public assistance.

He stated that according to chronological age, children from the high socio-economic group were consistently younger, on the average, than the

1

C. W. Reeder and S. C. Newman, "Relation of Employment to Scholarship", Educational Research Bulletin, XVIII (May, 1940), pp. 271-273.

2

H. A. Coleman, "Relationship of Socio-Economic Status to the Performance of Junior High School Students, Journal of Experimental Education, IX (September, 1940), pp. 61-63.

children from the lower socio-economic group. With regard to reading, geography, history, problem solving, personality adjustment, and hobbies, the high socio-economic status group was also the favored group.

In Chauncey's study¹ on the relationship of scores made on the Sims Score Card for Socio-Economic Status and those earned on the Stanford Achievement Test of 113 eighth grade pupils and 130 ninth grade pupils in the Junior High School, Stillwater, Oklahoma, a correlation of .30 was found for the eighth grade, and .35 for the ninth grade.

Duane C. Shaw² made a comparison of socio-economic status and the academic achievement of 280 pupils in the 4th, 5th, 6th, 7th, and 8th grades of the public schools of Sheldon, Iowa. He found that a coefficient of .41 was obtained between the scores on the Sims Score Card and a Stanford achievement test; a weighted average coefficient for the five grades of .39 between the Stanford achievement raw scores and Sim's scores; and a coefficient of .38 between average marks and Sims scores.

Holley³ reported from his study, "Persistence in School and Home Conditions" that:

1. There is a close relationship between the advantages of a home, its educational, economic and social status, and the number of years of schooling which its children receive.
2. Environmental influences more often caused a child to stop attending school than did lack of ability to do work.

1

M. R. Chauncey, "The Relation of the Home Factor to Achievement and Intelligence Test Scores", Journal of Educational Research, XX (1929), pp. 88-89.

2

Duane C. Shaw, "The Relation of Socio-Economic Status to Educational Achievement in Grades Four to Eight", Journal of Educational Research, XXXVII (November, 1943), pp. 199-218.

3

C. E. Holley, "Relation Between Persistence in School and Home Conditions", Fifteenth Yearbook, National Society for the Study of Education (1916), pp. 38-43.

3. Early elimination is correlated with, and largely due to, factors in the home.
4. Since the amounts of schooling which children receive are closely related with the advantages of the homes from which they come, it follows that our high schools are largely attended and probably dominated during the last two or three years by pupils from homes of culture and of a reasonable measure of economic advantage.
5. If a person wished to predict from a single objective measure, the probable educational opportunities which the children of a home have, the best measure would be the number of books in the home, which shows a very high correlation.

Ina C. Brown¹, in a National Survey of the Higher Education of Negroes, reported that:

1. The opportunity of both white and Negro children varies greatly with the type of county in which they live.
2. Rural, cotton, non-industrially diversified counties are poor counties, both economically and culturally, and their poverty shows clearly in their school indices.
3. When the farm county is industrially diversified, or when the basic crop is something other than cotton, the county is usually economically and culturally better off, and all the children have a better school opportunity.
4. For all counties, the opportunity increased with the degree of urbanization.
5. The Negro child gets his best opportunity in those counties which the white child gets his best chance, but the opportunity of Negroes varied not only in amount but in proportion. That is the poorer the economic and cultural level of the county, the smaller the proportion of available resources allocated to the Negro schools. Thus the Negro child in the poorer counties suffers both an absolute and a relative handicap in that his opportunity not only decreases in the poorer counties but the gap between his opportunity and that of his white neighbor steadily widens as the total economic and cultural level of the county falls.

1

Ina C. Brown, Socio-Economic Approach to Educational Problem, "National Survey of the Higher Education of Negroes, Misc. No. 6 (1942), pp. 47-64.

CHAPTER II

PRESENTATION AND INTERPRETATION OF DATA

Until recent years it was believed generally that adults could not benefit by training. Thorndike's works¹ exploded the fallacy of this belief. He found that because of physical factors such as decline in visual and auditory acuity, the rate of learning is not as great after thirty, but is more effective because of a greater clarity of purpose and experience. Age, therefore, seems to be an important factor in learning.

Data concerning the age distribution of the two hundred subjects included in this study are presented in Table 1. below.

TABLE 1
AGE COMPOSITION OF THE GROUP

| Range | Male | Female | Total |
|-------|------|--------|--------|
| 55-59 | | 2 | 2 |
| 50-54 | 1 | 2 | 3 |
| 45-49 | 2 | 4 | 6 |
| 40-44 | 4 | 4 | 8 |
| 35-39 | 18 | 13 | 31 |
| 30-34 | 7 | 23 | 30 |
| 25-24 | 8 | 21 | 29 |
| 20-24 | 9 | 31 | 40 |
| 15-19 | 23 | 28 | 51 |
| Total | 72 | 128 | 200 |
| Mean | 27.5 | 27.1 | - 28.0 |
| S. D. | 4.47 | 4.24 | 4.24 |

Age Composition of the Group.—An analysis of these data revealed that the age range for the entire group was from 15 to 59 years, with a mean age of 28.0 years; the range for the males was from 15 to 54 years, with a mean age of 27.5; and the range for the females was from 15 to 59 years, with a mean age of 27.1 years.

¹

Edward L. Thorndike, Adult Learning (New York, 1932), pp. 147-153.

Data with regard to age by grade and sex have been presented in Tables 10-14 in the appendix. A summary of these data is found in Table 2 below.

TABLE 2
MEAN AND STANDARD DEVIATION OF AGE BY GRADES

| | Grades | | | | |
|-------|--------|------|------|--------|--------|
| | Eight | Nine | Ten | Eleven | Twelve |
| Mean | 29.6 | 28.1 | 23.7 | 28.5 | 29.7 |
| S. D. | 10.1 | 8.00 | 8.85 | 9.20 | 10.9 |

When an analysis of this table was made it was revealed that the range of the mean age by grades was from 23.7 years for the tenth grade to 29.7 years for the twelfth grade. The mean ages of the ninth and eleventh grades were fairly comparable with the mean age of the entire group; the eighth and twelfth grades exceeded the mean age of the group by a score of 1.6 years for the eighth grade and 1.7 years for the twelfth grade. The tenth grade had the lowest mean age, which was 4.3 years below the entire group.

An analysis of the mean age by sex for the group showed that the females exceeded the males in grades eight, ten, and twelve; the males exceeded the females in the ninth and eleventh grades. The females in the eighth grade were the oldest of the entire group; the males in the tenth grade were the youngest. The greatest variation by sex occurred in the eighth grade with a range of mean age from 27.0 for males to 35.0 for females.

Socio-Economic Status of the Group.—Data on the socio-economic status of the two hundred subjects were tabulated and presented in Table 3. A study of these data showed that the socio-economic scores for the entire group ranged from 4 to 31, with a mean score of 16.5; the range for the males was from 6 to 31, with a mean score of 16.9; and the range for the females was from 4 to 29, with a mean score of 16.1. Slight variations occurred only

between the range of scores and the mean scores by sex for the group.

TABLE 3
SOCIO-ECONOMIC STATUS OF THE GROUP

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 30-31 | 1 | | 1 |
| 28-29 | 2 | 2 | 4 |
| 26-27 | 1 | 1 | 2 |
| 24-25 | 3 | 3 | 6 |
| 22-23 | 8 | 7 | 15 |
| 20-21 | 3 | 14 | 17 |
| 18-19 | 15 | 21 | 36 |
| 16-17 | 19 | 28 | 47 |
| 14-15 | 4 | 15 | 19 |
| 12-13 | 5 | 12 | 17 |
| 10-11 | 5 | 13 | 18 |
| 8-9 | 3 | 10 | 13 |
| 6-7 | 3 | 1 | 4 |
| 4-5 | | 1 | 1 |
| Total | 72 | 128 | 200 |
| Mean | 16.9 | 16.1 | 16.5 |
| S. D. | 3.46 | 3.16 | 3.16 |

Data with reference to the distribution of socio-economic scores by grades and sex are presented in Tables 15-19 in the appendix. These data were summarized and presented in Table 4. below.

TABLE 4
MEAN AND STANDARD DEVIATION OF SOCIO-ECONOMIC STATUS BY GRADES

| | Grades | | | | |
|-------|--------|------|------|--------|--------|
| | Eight | Nine | Ten | Eleven | Twelve |
| Mean | 19.0 | 16.5 | 15.6 | 17.0 | 16.2 |
| S. D. | 4.00 | 4.22 | 5.10 | 4.88 | 4.58 |

A study of these data indicated that the range of the mean socio-economic scores for the group was from 15.6 for the tenth grade to 19.0 for the eighth grade. The mean score of the ninth and twelfth grades were highly comparable with the mean score of the entire group. There were slight differences in

the mean scores of eight, tenth, and eleventh grades. The eighth grade had the highest mean score, and the tenth grade the lowest. The greatest variations were shown in these two grades.

An analysis of the mean socio-economic score by sex for the grades showed that the mean socio-economic scores for male and female of the eighth grade were the same--19.0, and that this score was the highest score of the group. The males excelled the females in the ninth and eleventh grades; the females excelled the males in the tenth and twelfth grades; the males in the tenth grade and the females in the eleventh grades made the same score--15.0--which was the lowest score of the group.

Number of Hours Worked Per Day.--Data with reference to the number of hours worked per day by the two hundred subjects were tabulated and presented in Table 5. When an analysis of these data was made it was revealed that the range for the number of hours worked per day for the group was from 4 to 15 hours, with a mean of 9.0 hours; the range for the males was from 6 to 15 hours, with a mean of 9.1 hours; and for the females, the range was from 4 to 13 hours, with a mean of 8.9 hours. The variations with regard to sex were very slight.

TABLE 5
NUMBER OF HOURS WORKED PER DAY OF GROUP

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 14-15 | 1 | 8 | 1 |
| 12-13 | 4 | 8 | 12 |
| 10-11 | 12 | 22 | 34 |
| 8-9 | 43 | 53 | 96 |
| 6-7 | 3 | 11 | 14 |
| 4-5 | | 5 | 5 |
| Total | 63* | 99* | 162* |
| Mean | 9.1 | 8.9 | 9.0 |
| S. D. | 1.02 | 1.28 | 1.20 |

*9 males and 29 females failed to state number of hours worked per day.

Data on the number of hours worked per day by grades and sex are presented in Table 20-24 in the appendix. These data were summarized, and the results are presented in Table 6 below:

TABLE 6
MEAN AND STANDARD DEVIATION OF NUMBER OF HOURS
WORKED PER DAY BY GRADES

| | Grades | | | | |
|-------|--------|------|------|--------|--------|
| | Eight | Nine | Ten | Eleven | Twelve |
| Mean | 8.6 | 9.4 | 8.6 | 8.0 | 9.0 |
| S. D. | 1.25 | 1.72 | 1.82 | 1.08 | 1.90 |

This table showed that the mean range of the number of hours worked per day was from 8.0 hours for the eleventh grade to 9.4 hours for the ninth grade. The eighth, tenth, and eleventh grades were below the mean hours for the group. The ninth grade worked the longest number of hours, which was 0.4 above the mean hours for the entire group, and the eleventh grade worked the shortest number of hours, which was 1.0 below the mean hours for the group. Further study revealed that the mean hours for the twelfth grade was the same as that of the entire group; the eighth and tenth grades were in each case 0.4 below the mean hours of the group.

An analysis of the mean number of hours worked per day by sex for all grades showed that the males in the tenth grade and the females in the ninth grade worked the longest number of hours per day, which were 9.4 hours in each case. The males and females in the eleventh grade worked the same number of hours--8.0 in each case, which were the shortest number of hours of the entire group. The mean hours of the males and females of all the grades were fairly comparable, with the greatest variation occurring in the eleventh grade.

Academic Achievements.---Data on the academic achievements made by the two hundred students were tabulated and the results were presented in Table 7 below.

TABLE 7

ACADEMIC ACHIEVEMENT OF THE GROUP

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 14-15 | | 8 | 9 |
| 12-13 | 7 | 20 | 27 |
| 10-11 | 11 | 33 | 44 |
| 8-9 | 35 | 43 | 78 |
| 6-7 | 16 | 21 | 37 |
| 4-5 | 3 | 3 | 6 |
| Total | 72 | 128 | 200 |
| Mean | 8.5 | 9.5 | 9.2 |
| S. D. | 1.39 | 1.83 | 1.59 |

An analysis of the data included in the above table indicated that the range for the academic achievement for the group was from 4 to 15, with a mean score of 9.2; the range for the males was from 4 to 13, with a mean score of 8.5; and the range for the females was from 4 to 15, with a mean score of 9.5.

Data with regard to the academic achievement by grades and sex are presented in Tables 25-29 in the appendix. These data were summarized and the results were presented in Table 8 below.

TABLE 8

MEAN AND STANDARD DEVIATION OF ACADEMIC ACHIEVEMENT BY GRADES

| | Grades | | | | |
|-------|--------|------|------|--------|--------|
| | Eight | Nine | Ten | Eleven | Twelve |
| Mean | 10.5 | 8.6 | 9.5 | 9.8 | 7.7 |
| S. D. | 2.00 | 1.62 | 2.04 | 2.28 | 1.72 |

A study of these data revealed that the range for the academic achievements by grades was from 7.7 for the twelfth grade to 10.5 for the eighth grade. Grades nine, ten, and eleven were fairly comparable with the mean score of the entire group. The eighth grade made the highest score, which

was 1.3 above the mean score for the entire group, and the twelfth grade made the lowest score which was 1.5 below the mean score of the group.

An analysis of the mean academic achievement by sex for the entire group showed that the females made higher scores than the males; the males in the eighth, tenth, and eleventh grades exceeded the females only in the ninth and twelfth grades. The females in the eighth grade made the highest score of the entire group, which was 1.8 above the mean score for the entire group, and the males in the twelfth grade made the lowest score of the group, which was 1.9 below the mean score. Within the grades the females excelled the males in every case.

Correlation Between Factors Studied.—In order to be more definite and exact about the relationship of one factor to another the method of correlation should be used.¹ The coefficients of correlation were obtained between age and academic achievement, socio-economic status and academic achievement, and number of hours worked per day and academic achievement by using the following Product-Moment method formula:

$$r = \frac{\frac{\sum x'y'}{N} - c_x c_y}{\sigma_x \sigma_y}$$

Data on the coefficients of correlation obtained between the factors are presented in Table 9.

TABLE 9

CORRELATION COEFFICIENTS OBTAINED BETWEEN FACTORS STUDIED

| Measures | r |
|--|------|
| Age and Academic Achievement | -.04 |
| Socio-Economic Scores and Academic Achievement | .37 |
| Hours Worked Per Day and Academic Achievement | -.16 |

¹ Edward A. Lincoln, Beginnings in Educational Measurement, (Philadelphia, 1924), p. 52.

As shown in Table 9, a correlation coefficient of $-.04$ was obtained between age and academic achievement; a correlation coefficient of $.37$ was obtained between the socio-economic scores and academic achievement; and a correlation coefficient of $-.16$ was obtained between number of hours worked per day and academic achievement.

Henry E. Garret¹ gives the following interpretation of correlation coefficients:

r from $.00$ ~~to~~ $.20$ denotes indifferent or negligible relationship.

r from $\pm .20$ to $\pm .40$ denotes low correlation; present but slight.

r from $\pm .40$ to $\pm .70$ denotes substantial or marked relationship.

r from $\pm .70$ to ± 1.00 denotes high to very high relationship.

According to Garret's interpretation of correlation coefficient, the relationship between age and academic achievement was "indifferent or negligible"; the relationship between socio-economic scores and academic achievement was "low, present but slight", and the relationship between number of hours worked per day and academic achievement was also "negligible or indifferent".

1

Henry E. Garret, Statistics in Psychology and Education, (New York, 1941), p. 342.

CHAPTER III

SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary.--As stated in Chapter I the purpose of this study was to determine the relationship of certain socio-economic factors to the academic achievement of two hundred evening school students of the Booker T. Washington High School, Atlanta, Georgia. The specific purpose was to answer the following questions:

1. What was the relationship between age and academic achievement?
2. What was the relationship between socio-economic status and academic achievement?
3. What was the relationship between number of hours worked per day and academic achievement?

In answer to the first question, a correlation of $-.04$ was obtained between age and academic achievement, which indicated no significant relationship.

With regard to the second question, what was the relationship between socio-economic status and academic achievement, a correlation of $.37$ was found which means that there was some relationship, but that it was slight.

In answer to the third question, what was the relationship between number of hours worked per day and academic achievement, a correlation of $-.16$ was obtained which also indicated no significant relationship.

These findings were in accord with the findings of Thorndike, Chauncey, Shaw, the Educational Policies Commission as given in its recent publication, "Education and Economic Well Being in American Democracy" and the findings of the National Survey of Higher Education Among Negroes made by the U. S.

Office of Education, as well as other studies in this area.

Conclusions.--On the basis of the findings in this study, the following conclusions may be drawn:

1. The factor of age seemed to have been no handicap for the academic achievement of the students.
2. Socio-economic status was associated with academic achievement. The increase in socio-economic status has a tendency to increase one's probability for academic achievement.
3. The evening school student who works long hours during the day achieves as much academically as the student who works short hours during the day.

Implications.--From the results of this study the following implications seem justified:

1. No individual between the ages of fifteen to forty-five should hesitate to improve his educational status because of the belief that he is too old.
2. Socio-economic status is an important factor in the prediction of one's success in academic achievement.
3. Any student without necessary financial means for attending school should be enrolled in a local, state or national program which provides assistance for persons who have ability and ambition to continue his education. Aid for adult education seems as sound in terms of probability for success as it is for youth.

1. 2. 3.

APPENDIX

Table 10

The Distribution Of Ages in The Eighth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 55-59 | | 1 | 1 |
| 50-54 | | | |
| 45-49 | | 1 | 1 |
| 40-44 | | 1 | 1 |
| 35-39 | 5 | 3 | 8 |
| 30-34 | 1 | 4 | 5 |
| 25-29 | 1 | | 1 |
| 20-24 | 1 | 1 | 2 |
| 15-19 | 5 | 1 | 6 |
| Total | 13 | 12 | 25 |
| Mean | 27.0 | 35.0 | 31.0 |
| S. D. | 8.66 | 9.89 | 10.1 |

Table 11

The Distribution of Ages in The Ninth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 55-59 | | | |
| 50-54 | | 1 | 1 |
| 45-49 | | | |
| 40-44 | 1 | | 1 |
| 35-39 | 4 | 3 | 7 |
| 30-34 | 1 | 5 | 6 |
| 25-29 | 2 | 9 | 11 |
| 20-24 | 2 | 5 | 7 |
| 15-19 | 2 | 6 | 8 |
| Total | 12 | 29 | 41 |
| Mean | 30.0 | 27.4 | 28.1 |
| S. D. | 8.00 | 7.70 | 8.00 |

Table 12

The Distribution Of Ages in The Tenth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 55-59 | | | |
| 50-54 | 1 | 1 | 2 |
| 45-49 | | 1 | 1 |
| 40-44 | | 1 | 1 |
| 35-39 | | 1 | 1 |
| 30-34 | 1 | 5 | 6 |
| 25-29 | 1 | 6 | 7 |
| 20-24 | 1 | 14 | 15 |
| 15-19 | 8 | 12 | 20 |
| Total | 12 | 41 | 53 |
| Mean | 22.0 | 24.0 | 23.7 |
| S. D. | 5.38 | 9.16 | 8.85 |

Table 13

The Distribution of Ages in The Eleventh Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 55-59 | | | |
| 50-54 | | | |
| 45-49 | 2 | 1 | 3 |
| 40-44 | 1 | 2 | 3 |
| 35-39 | 4 | 4 | 8 |
| 30-34 | 2 | 5 | 7 |
| 25-29 | 2 | 2 | 4 |
| 20-24 | 3 | 9 | 12 |
| 15-19 | 3 | 6 | 9 |
| Total | 17 | 29 | 46 |
| Mean | 29.1 | 25.8 | 28.5 |
| S. D. | 9.75 | 8.20 | 9.20 |

Table 14

The Distribution of Ages in The Twelfth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 55-59 | | 1 | 1 |
| 50-54 | | | |
| 45-49 | | 1 | 1 |
| 40-44 | 2 | | 2 |
| 35-39 | 5 | 2 | 7 |
| 30-34 | 2 | 4 | 6 |
| 25-29 | 2 | 4 | 6 |
| 20-24 | 2 | 2 | 4 |
| 15-19 | 5 | 3 | 8 |
| Total | 18 | 17 | 35 |
| Mean | 26.9 | 28.4 | 29.7 |
| S. D. | 9.05 | 10.3 | 10.9 |

Table 15

The Distribution of Socio-Economic Scores in The Eighth Grade

| Socio-Economic Scores | Male | Female | Total |
|--------------------------|------|--------|-------|
| 30-31 | | | |
| 28-29 | 1 | | 1 |
| 26-27 | 1 | | 1 |
| 24-25 | | 1 | 1 |
| 22-23 | 2 | | 2 |
| 20-21 | | 3 | 3 |
| 18-19 | 4 | 3 | 7 |
| 16-17 | 3 | 2 | 5 |
| 14-15 | 1 | 2 | 3 |
| 12-13 | | | |
| 10-11 | 1 | 1 | 2 |
| 8-9 | | | |
| 6-7 | | | |
| 4-5 | | | |
| Total | 13 | 12 | 25 |
| Mean | 19.0 | 19.0 | 19.0 |
| S. D. | 3.94 | 3.40 | 4.00 |

Table 16

The Distribution of Socio-Economic Scores in The Ninth Grade

| Socio-Economic Scores | Male | Female | Total |
|--------------------------|------|--------|-------|
| 30-31 | | | |
| 28-29 | | | |
| 26-27 | | | |
| 24-25 | 1 | 1 | 2 |
| 22-23 | 1 | 3 | 4 |
| 20-21 | 1 | 4 | 5 |
| 18-19 | 3 | 3 | 6 |
| 16-17 | 2 | 9 | 11 |
| 14-15 | 2 | 1 | 3 |
| 12-13 | | 3 | 3 |
| 10-11 | 1 | 2 | 3 |
| 8-9 | 1 | 3 | 4 |
| 6-7 | | | |
| 4-5 | | | |
| Total | 12 | 29 | 41 |
| Mean | 17.2 | 16.5 | 16.6 |
| S. D. | 3.04 | 4.36 | 4.22 |

Table 17

The Distribution of Socio-Economic Scores in The Tenth Grade

| Socio-Economic Scores | Male | Female | Total |
|--------------------------|------|--------|-------|
| 30-31 | | | |
| 28-29 | 1 | 1 | 2 |
| 26-27 | | 1 | 1 |
| 24-25 | | | |
| 22-23 | 1 | 3 | 4 |
| 20-21 | | 3 | 3 |
| 18-19 | 1 | 4 | 5 |
| 16-17 | 3 | 11 | 14 |
| 14-15 | 1 | 6 | 7 |
| 12-13 | 1 | 3 | 4 |
| 10-11 | 2 | 5 | 7 |
| 8-9 | 1 | 3 | 4 |
| 6-7 | 1 | | 1 |
| 4-5 | | 1 | 1 |
| Total | 12 | 41 | 53 |
| Mean | 15.0 | 16.0 | 15.6 |
| S. D. | 5.88 | 4.82 | 5.10 |

Table 18

The Distribution of Socio-Economic Scores in The Eleventh Grade

| Socio-Economic Scores | Male | Female | Total |
|--------------------------|------|--------|-------|
| 30-31 | 1 | | 1 |
| 28-29 | | | |
| 26-27 | | | |
| 24-25 | 2 | | 2 |
| 22-23 | 3 | | 3 |
| 20-21 | 1 | 4 | 5 |
| 18-19 | 3 | 3 | 6 |
| 16-17 | 5 | 8 | 13 |
| 14-15 | | 3 | 3 |
| 12-13 | | 4 | 4 |
| 10-11 | | 5 | 5 |
| 8-9 | 1 | 1 | 2 |
| 6-7 | 1 | 1 | 2 |
| 4-5 | | | |
| Total | 17 | 29 | 46 |
| Mean | 18.7 | 15.0 | 17.0 |
| S. D. | 5.56 | 3.78 | 4.88 |

Table 19

The Distribution of Socio-Economic Scores in The Twelfth Grade

| Socio-Economic Scores | Male | Female | Total |
|--------------------------|------|--------|-------|
| 30-31 | | | |
| 28-29 | | 1 | 1 |
| 26-27 | | | |
| 24-25 | | 1 | 1 |
| 22-23 | 1 | 1 | 2 |
| 20-21 | 1 | | 1 |
| 18-19 | 4 | 6 | 10 |
| 16-17 | 6 | | 6 |
| 14-15 | | 3 | 3 |
| 12-13 | 4 | 2 | 6 |
| 10-11 | 1 | | 1 |
| 8-9 | | 3 | 3 |
| 6-7 | 1 | | 1 |
| 4-5 | | | |
| Total | 18 | 17 | 35 |
| Mean | 16.1 | 16.5 | 16.2 |
| S. D. | 3.06 | 5.28 | 4.58 |

Table 11

The Distribution of Number of Hours Worked Per Day in The
Eighth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 14-15 | | | |
| 12-13 | | | |
| 10-11 | 4 | 5 | 9 |
| 8-9 | 4 | 2 | 6 |
| 6-7 | 2 | 1 | 3 |
| 4-5 | | 1 | 1 |
| Total | 10 | 9 | 19 |
| Mean | 8.9 | 8.2 | 8.6 |
| S. D. | 1.05 | 1.02 | 1.25 |

Table 1.
The Distribution of Number of Hours Worked Per Day in The
Ninth Grade

| <u>Range</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|--------------|-------------|---------------|--------------|
| 14-15 | | | |
| 12-13 | 1 | 5 | 6 |
| 10-11 | 1 | 5 | 6 |
| 8-9 | 9 | 10 | 19 |
| 6-7 | | 3 | 3 |
| 4-5 | | | |
| <u>Total</u> | <u>11</u> | <u>23</u> | <u>34</u> |
| <u>Mean</u> | <u>8.5</u> | <u>9.4</u> | <u>9.4</u> |
| <u>S. D.</u> | <u>1.31</u> | <u>1.82</u> | <u>1.72</u> |

Table
The Distribution of Number of Hours Worked Per Day in The
Tenth Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 14-15 | | | |
| 12-13 | 2 | 1 | 3 |
| 10-11 | 1 | 7 | 8 |
| 8-9 | 6 | 19 | 25 |
| 6-7 | | 5 | 5 |
| 4-5 | | 3 | 3 |
| Total | 9 | 35 | 44 |
| Mean | 9.4 | 8.6 | 8.6 |
| S. D. | 1.72 | 1.26 | 1.82 |

Table . . .

The Distribution of Number of Hours Worked Per Day in The
Eleventh Grade

| Range | Male | Female | Total |
|-------|------|--------|-------|
| 14-15 | | | |
| 12-13 | | | |
| 10-11 | 2 | 2 | 4 |
| 8-9 | 14 | 15 | 29 |
| 6-7 | | 2 | 2 |
| 4-5 | | | |
| Total | 16 | 19 | 35 |
| Mean | 8.0 | 8.0 | 8.6 |
| S. D. | 1.00 | 1.17 | 1.08 |

Table

The Distribution of Number of Hours Worked Per Day in The
Twelfth Grade

| <u>Range</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|--------------|-------------|---------------|--------------|
| 14-15 | 1 | | 1 |
| 12-13 | 1 | 2 | 3 |
| 10-11 | 4 | 3 | 7 |
| 8-9 | 10 | 7 | 17 |
| 6-7 | 1 | | 1 |
| 4-5 | | 1 | 1 |
| <u>Total</u> | <u>17</u> | <u>13</u> | <u>30</u> |
| <u>Mean</u> | <u>9.0</u> | <u>9.0</u> | <u>9.0</u> |
| <u>S. D.</u> | <u>1.73</u> | <u>2.00</u> | <u>1.90</u> |

Table
The Distribution of Academic Achievement Scores in The
Eighth Grade

| Academic Scores | Male | Female | Total |
|-----------------|------|--------|-------|
| 14-15 | | 3 | 3 |
| 12-13 | 2 | 3 | 5 |
| 10-11 | 2 | 4 | 6 |
| 8-9 | 9 | 2 | 11 |
| 6-7 | | | |
| 4-5 | | | |
| 2-3 | | | |
| Total | 13 | 12 | 25 |
| Mean | 9.0 | 11.0 | 10.5 |
| S. D. | 1.73 | 2.44 | 2.00 |

Table
The Distribution of Academic Achievement Scores in The
Ninth Grade

| <u>Academic Scores</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|------------------------|-------------|---------------|--------------|
| 14-15 | | | |
| 12-13 | | | |
| 10-11 | 1 | 9 | 10 |
| 8-9 | 4 | 11 | 15 |
| 6-7 | 6 | 8 | 14 |
| 4-5 | 1 | 1 | 2 |
| 2-3 | | | |
| <u>Total</u> | <u>12</u> | <u>29</u> | <u>41</u> |
| <u>Mean</u> | <u>7.0</u> | <u>8.0</u> | <u>8.6</u> |
| <u>S. D.</u> | <u>1.73</u> | <u>1.73</u> | <u>1.62</u> |

Table
The Distribution of Academic Achievement Scores in The
Tenth Grade

| <u>Academic Scores</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|------------------------|-------------|---------------|--------------|
| 14-15 | | 3 | 3 |
| 12-13 | 1 | 8 | 9 |
| 10-11 | 2 | 10 | 12 |
| 8-9 | 9 | 17 | 26 |
| 6-7 | | 2 | 2 |
| 4-5 | | 1 | 1 |
| 2-3 | | | |
| <u>Total</u> | <u>12</u> | <u>41</u> | <u>53</u> |
| <u>Mean</u> | <u>9.1</u> | <u>10.1</u> | <u>9.5</u> |
| <u>S. D.</u> | <u>1.52</u> | <u>2.23</u> | <u>2.04</u> |

Table .
The Distribution of Academic Achievement Scores in The
Eleventh Grade

| <u>Academic Scores</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|------------------------|-------------|---------------|--------------|
| 14-15 | | 2 | 2 |
| 12-13 | 4 | 8 | 12 |
| 10-11 | 4 | 7 | 11 |
| 8-9 | 8 | 9 | 17 |
| 6-7 | | 2 | 2 |
| 4-5 | 1 | 1 | 2 |
| 2-3 | | | |
| <u>Total</u> | <u>17</u> | <u>29</u> | <u>46</u> |
| <u>Mean</u> | <u>9.0</u> | <u>10.2</u> | <u>9.8</u> |
| <u>S. D.</u> | <u>2.23</u> | <u>2.23</u> | <u>2.28</u> |

Table
The Distribution of Academic Achievement Scores in The
Twelfth Grade

| <u>Academic Scores</u> | <u>Male</u> | <u>Female</u> | <u>Total</u> |
|------------------------|-------------|---------------|--------------|
| 14-15 | | | |
| 12-13 | | 1 | 1 |
| 10-11 | 2 | 3 | 5 |
| 8-9 | 5 | 4 | 9 |
| 6-7 | 10 | 9 | 19 |
| 4-5 | 1 | | 1 |
| 2-3 | | | |
| <u>Total</u> | <u>18</u> | <u>17</u> | <u>35</u> |
| <u>Mean</u> | <u>7.3</u> | <u>7.8</u> | <u>7.7</u> |
| <u>S. D.</u> | <u>1.41</u> | <u>2.00</u> | <u>1.72</u> |

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